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ABSTRACT

Anabolic-androgenic steroids ("steroids") are synthetic derivatives of the natural male hormone testosterone. They were first used non-medically by elite athletes seeking to improve performance. More recently, however, steroid use has filtered down to high school and junior high school levels. The purpose of this study was to describe adolescent steroid use from a user point of view, including use patterns and trends, motivations and influences, effects, and awareness of health risks. Seventy-two former and current steroid users who began using steroids before leaving high school and who were age 25 or younger were interviewed. The results indicated that: (1) more senior high school students were using steroids at the time of the interview than when the subjects started using; (2) over one-half of the subjects started using steroids by age 16 and on average they had been using for more than 3 years; (3) former users gave a number of reasons for quitting, including undesirable physical or psychological effects, concern about possible health risks, and new goals; and (4) profiles of many users indicated that they were mainstream students with socially acceptable goals. (Four profiles of individuals interviewed are presented.) (ABL)

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ADOLESCENTS AND STEROIDS: A USER PERSPECTIVE

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OFFICE OF INSPECTOR GENERAL
OFFICE OF EVALUATION AND INSPECTIONS

AUGUST 1990

ADOLESCENTS AND STEROIDS: A USER PERSPECTIVE

RICHARD P. KUSSEROW
INSPECTOR GENERAL

OEI-06-90-01081 AUGUST 1990

EXECUTIVE SUMMARY

PURPOSE

To describe adolescent steroid use from a user point of view; this includes use patterns and trends, motivations and influences, effects, and awareness of health risks.

BACKGROUND

Anabolic-androgenic steroids ("steroids") are synthetic derivatives of the natural male hormone testosterone. They were first used non-medically by elite athletes seeking to improve performance. More recently, however, steroid use has filtered down to high school and junior high school levels.

METHODOLOGY

OEI contracted three experts[1] in the field of steroids to conduct confidential structured interviews with former and current steroid users. They interviewed 67 respondents who began using steroids before leaving high school, and were not over the age of 25 at the time of the interview. These plus five anonymous telephone interviews completed by OEI resulted in a total of 72 interviews. The findings below are based on this non-random sample of 72 steroid users.

FINDINGS

More Adolescents Are Using Steroids

Nearly all users say more senior high school students are using steroids now than when they started. Male competitive athletes are the primary users.

Users Start Young and Continue Using for a Long Time

Over one-half of the respondents started using steroids by age 16. Nearly one-third of the current users interviewed have been using steroids for five years or longer; on average they started over three years ago.

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[1] See Appendix C: Acknowledgments.

Former Users Quit Because of Bad Effects They Experienced, Fear of Bad Effects, and New Goals.

Former users (17) gave a number of reasons for quitting (some mentioning more than one): eight experienced undesirable physical or psychological effects which they attribute to steroids; eight were concerned about possible health risks; seven noted a life change, such as not competing (or working out) any more, a change in goals, or a job-related decision.

Profiles Show Many Users Are Mainstream Students.[2]

Because many steroid users are pursuing socially acceptable goals, they do not stand out as belonging to a "drug subculture." As one interviewer reports, "By looking at them you wouldn't know they were steroid users; in fact, if I didn't know, they look like the kind of guys I'd like my daughter to date." This, plus the secretive nature of steroid use, means that parents, coaches, peers, and even teammates may not know that someone close to them is a user. As one user notes, "When I started I thought I was the only one at my school, but once I got bigger others started talking about it."

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[2] See Appendix A: Selected User Profiles for profiles of eight users.

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INTRODUCTION

PURPOSE

To describe adolescent steroid use from a user point of view; this includes use patterns and trends, motivations and influences, effects, and awareness of health risks.

BACKGROUND

Anabolic-androgenic steroids ("steroids") are synthetic derivatives of the natural male hormone testosterone. They were first used non-medically by elite athletes seeking to improve performance. More recently, however, their use has filtered down to high school and junior high school levels. For more detail, including a literature review, expert interviews, statistics from the National Institute on Drug Abuse (NIDA), and comparisons of the following findings with published studies, see the companion report entitled *Adolescent Steroid Use*, OEI 06-90-01080.

METHODOLOGY

Experts conducted confidential, in-depth interviews.

OEI contracted three experts[1] in the field of steroids to conduct confidential structured interviews with former and current steroid users. They interviewed 67 respondents who began using steroids before leaving high school, and were not over the age of 25 at the time of the interview. These plus five anonymous telephone interviews completed by OEI resulted in a total of 72 interviews. The findings below are based on this non-random sample of 72 steroid users.

Interviewees came from ten states. Sixty-six respondents (92%) were male and six were female. Fifty-five (76%) were current users and 17 former users. Twenty-six (36%) were 18 years old or younger at the time of the interview. The average current age of the respondents was 20.[2]

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[1] See Appendix C: Acknowledgments.

[2] See Appendix B: User Characteristics for more detail.

Adolescent Users Combine Steroids, Take Large Doses, and Use More Intensely Over Time.

Nearly all users take more than one steroid at a time.

Only two respondents did not "stack" (combine two or more) steroids during their last "cycle" (episode of use). Eighty-two percent combined three or more steroids, while 30 percent used seven or more. On average respondents used five steroids during their last cycle.

Table 1: Steroids Used by 10 or More Users During Their Last Cycle

Trade/Street Name	Generic	Type	Used by	
Depo-Testosterone	testosterone cypionate	injectable	44	(61%)
Deca-Durabolin	nandrolone decanoate	injectable	43	(60%)
Anadrol	oxymetholone	oral	36	(50%)
Winstrol V	stanozolol	veterinary, injectable	34	(47%)
Dianabol	methandrostenolone	oral	32	(44%)
Equipoise	boldenone undecyclenate	veterinary, injectable	29	(40%)
Anavar	oxandrolone	oral	20	(28%)
Sustanon 250	testosterone	injectable	15	(21%)
Primobolan	methenolone	oral	15	(21%)
Dianabol	methandrostenolone	injectable	12	(17%)

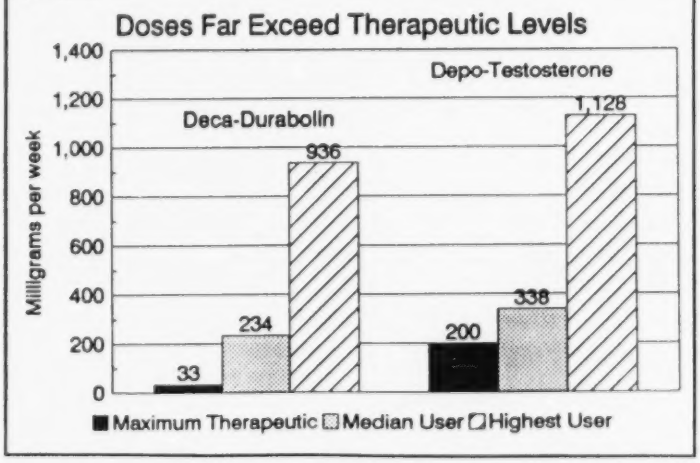
Nearly all use injectable steroids.

All but one respondent used injectable steroids. In addition, 91 percent used oral steroids.

Users take doses many times normal therapeutic levels.

Some users took nearly 30 times the maximum therapeutic dose of Deca-Durabolin (nandrolone decanoate) during their last cycle. Depo-Testosterone is the most popular drug, reported by 44 users, followed by Deca-Durabolin with 43 users. Both of these are injectable steroids. Many also used veterinary products during their last cycle, as shown in Table 1 above.

Figure 2



Users Buy Steroids and Get Information from Several Sources.

Commercial gyms play a role for a majority of users.

Users report one to five sources when asked about their current/most recent source of steroids, averaging 2.2 sources per respondent. Commercial-gym-related sources were mentioned by 63 percent of the respondents. Table 3 shows the main sources of purchased steroids.

Table 3: Sources of Purchased Steroids

Where	Who	Noted by*	
Commercial gyms	One or more gym-based source	45	(63%)
	friend/athlete	26	(37%)
	a "gym dealer"	17	(24%)
	gym personnel	8	(11%)
Health professionals	One or more health professional	27	(38%)
	pharmacist	22	(31%)
	veterinarian	10	(14%)
	personal doctor	3	(4%)
Mail order		20	(28%)
School-related source	One or more school-related source	16	(23%)
	school friend/teammate	15	(21%)
	school coach or team physician	1	
Other drug dealer		8	(11%)

* Percentages based on the 71 respondents who answered this question.

One-quarter of all respondents sold steroids themselves at some time.

Users rarely receive free steroids on an ongoing basis.

Four respondents say they received free steroids on an ongoing basis. Three former users each reported one source: school alumni, a school coach or trainer, and a gym friend/athlete. One current user receives free steroids from a relative who is a physician.

Users get information on drugs and dosages from their steroid sources and from printed literature.

Commercial-gym-related people are a source of steroid information for nearly three-quarters of the respondents. Many users also read printed information on steroids to decide what and how much to take.

Respondents also gave several reasons relating to ***self-esteem and approval from others*** which may be related to performance, appearance or both:

53%	generally like self better/be happier
35%	friends were using
18%	be more successful with the opposite sex
11%	receive more approval from parents

Other (apparent) performance-related reasons for use:

44%	competitors were using
29%	improve ability to train harder/endurance
24%	increase chances for a college athletic scholarship
15%	be more aggressive
15%	receive more approval from coaches/trainers
6%	prevent injuries
3%	recover from injuries

Adolescents are most influenced to use steroids by users they know personally who have gotten results.

Eighty-five percent are influenced or motivated to use steroids by school friends/teammates, gym friends/athletes, or other friends. In most cases the friend is a user who has achieved the kind of results the respondent desires. In some instances only the friend's advice is mentioned. The (commercial) gym friend may be an older role model and not a peer in age. Respondents were free to mention more than one influence. The personal influences mentioned by four or more users were:

53%	gym friend/athlete	8%	brother/sister
40%	school friend/teammate	6%	other friends
15%	non-school coach/trainer	6%	personal doctor
11%	gym personnel	6%	school coach/trainer

Famous role models also influence adolescents.

Users also believe that many high-level athletes have used steroids, and say this influenced them to start using. While 25 percent do not identify influences outside of people they know personally, 57 percent point to "muscle" magazines, 42 percent to famous athletes who (they believe) use, and seven percent to entertainment personalities.

Users also give several indications that social acceptance and societal values are reinforcing their motivations to use steroids. (See "***Society...***" below, page 9.)

seeking, nearly all (97%) say those positive effects encouraged them to continue using steroids. Many users report tremendous gains in weight, muscle mass, strength, muscle definition and athletic accomplishment.

Some get very powerful unexpected "benefits."

Forty-three percent (31 of 72) report unexpected "benefits" from taking steroids.

Unexpected "benefits."

A: **"I was always feeling strong. My attitude was superior–I was superior to everybody. Being aggressive was great. I didn't know that would happen."**

B: **"Everything in my life seemed to go better." He got more respect and admiration from teachers, teammates, coaches, male and female friends, even his parents.**

C: **Increased sex drive at first–really sexually active.**

E: **"I always looked pumped."**

Society rewards users for the results they achieve; attitudes of peers and coaches fail to discourage steroid use.

Many current users agree with the following statements:[3]

93% "Overall, people like the effects steroids have had on me."
83% "The improvements I achieved by using steroids made me more popular."
76% "My friends, who don't use steroids, don't care if I use."
52% "My parents probably know that I use steroids."
37% "At my school winning is more important than good grades."

Sixty-one percent ***disagree*** with the statement, "My coaches *really* believe that steroid use is a bad idea" (of 41 having coaches). For current users still of high school age 9 of 24 (38%) disagree.

Users noted both positive and negative social changes since using steroids.

Of the 24 current users who say they had more arguments or physical fights, half also say they got along better with others; 21 are more satisfied with their life; 17 say girls/guys liked them a lot more. Some note fights occur because others want to test

[3] Percentages taken from the total respondents who answered each question, varying from 54 to 55.

Further, when asked about the physical changes a strong majority of users say each reported change is a ***direct result*** of taking steroids.

Users are somewhat aware of risks cited by experts.

When asked if they can tell what experts say about steroids and health problems, respondents most frequently volunteer the following:

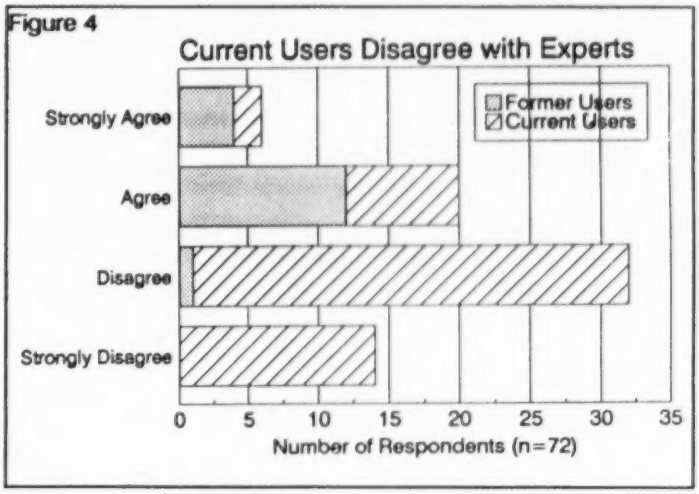
71%	liver disease	45%	death
56%	heart disease	44%	sterility
50%	cancer	38%	kidney disease
49%	shrinking of the testicles	38%	blood pressure problems
49%	adverse personality changes	36%	stunted growth

However, 82 percent of all current users disagree with experts about potential health problems associated with steroids. In sharp contrast, 16 of 17 former users agree with experts.

Most users base their opinions about health risks on their personal experience or on that of others they know.

Reasons for ***disagreeing:***

Figure 4



Eighty-seven percent of those who disagree with experts say they are not experiencing health problems themselves, and 80 percent say other users they know are not experiencing problems. Only nine percent qualify their answer by saying that they are not experiencing "serious" problems themselves, and only four percent qualify their answers similarly for others. Fifty-four percent cite a lack of hard evidence, and 39 percent suspect scare tactics on the part of experts. Over one-quarter point out that experts were wrong before in saying that steroids didn't work.

Former Users Quit Because of Bad Effects They Experienced, Fear of Bad Effects, and New Goals.

Former users (17) gave a number of reasons for quitting (some mentioning more than one):

- 8 experienced undesirable physical or psychological effects which they attribute to steroids
- 8 were concerned about possible health risks
- 8 noted a life change: not competing (or working out) any more, a change in goals, or a job-related decision
- 7 feared becoming dependent
- 5 said steroids cost too much
- 3 failed to achieve the results they had hoped for
- 2 feared being caught.

Disapproval of coaches and disapproval of parents were each mentioned by one former user. One said steroids were difficult to get, and one quit because he was "bored."

Profiles Show Many Users Are Mainstream Students.[4]

Because many steroid users are pursuing socially acceptable goals, they do not stand out as belonging to a "drug subculture." As one interviewer reports, "By looking at them you wouldn't know they were steroid users; in fact, if I didn't know, they look like the kind of guys I'd like my daughter to date." This, plus the secretive nature of steroid use, means that parents, coaches, peers and even teammates may not know that someone close to them is a user. As one user notes, "When I started I thought I was the only one at my school, but once I got bigger others started talking about it."

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[4] See Appendix A: Selected User Profiles for profiles of eight users.

APPENDIX A

SELECTED USER PROFILES

The following are actual profiles of individuals interviewed for this project. They are drawn from seven states. The names used are fictitious.

All-American Guy

Phil was into football, and his successes would be the envy of many of his peers. At 15 he saw the progression of size, strength, and athletic ability (plus the scholarship offers) of guys at the gym where he worked out. A friend there felt that steroids had contributed a great deal to his improvements, so Phil started too.

Phil gained 25 lbs. in his sophomore year, his first year of use, and he displaced older students for first string linebacker on the football team. He was bigger, faster, more aggressive, and much stronger. He could bench press 185 in tenth grade, and 335 (strict form) by the end of high school. Phil says his grades improved, he gets along better with others, he is more satisfied with life, he is more popular, and the girls like him a lot more. Finally, he got a scholarship to college.

Phil's behavior has been strongly reinforced. He feels that winning was more important than good grades at his school, and he doesn't believe that his coaches *really* thought steroids were a bad idea. He also believes that steroid use is widespread, even universal (at least at some time), among famous football players. He doesn't consider his side effects (acne, bloated appearance, breast development, shrinking testicles) to be serious, and disagrees with what experts say about the risks of steroids, though he's not sure. At 19, he has no plans to stop, even if others do. He says he would stop if you could convince him that steroids were really bad for him, but for now he believes that he made a good decision when he started.

"Living Proof (So Far)"

Steve had measured his gains in inches: 6" on his neck, 3" on each arm, 12" on his chest. Now he says, "I'm living (so far) proof of the addictive nature. I was chemically dependent as an adolescent, and 'roids are just as addictive." Steve started using steroids at 17, and used for about 23 cycles. In his heaviest cycle he combined 9 steroids, five of those injectable. Before steroids he had used alcohol, marijuana and "uppers." He later added "downers," recreational drugs, estrogen inhibitors, blood pressure regulators, and Human Growth Hormone. He experienced increased acne,

He did a lot of research on steroids before starting, "reading everything about it. I weighed the good and the bad, and decided the bad wasn't all that bad if I didn't abuse it." He has completed four seven-week cycles, using one oral and two injectables during his last cycle. He went from about 160 (with training) up to 215 lbs. at 16 years old after adding steroids. He had some trouble with aggressiveness at first, but once he realized what was happening he said he could consciously keep it under control.

He says he'll stop taking steroids when he's through with competitive bodybuilding, confident he'll "do just fine without them." At the time of the interview he was busy mowing lawns around the neighborhood to earn enough money for his next cycle.

Hooked?

Mike is a competitive bodybuilder who started using at 18. He was convinced to start by a user at a commercial gym: "Once I saw him I thought, 'Here's the way to put some size on.'" Mike got the results he was after; he's gained 75 lbs. in the four years since he started using, and has increased his bench press to 450 lbs. He says people like the effects steroids have had on him, and that girls like him a lot more. He *strongly* disagrees with experts' warnings about steroids, saying that he hasn't had health problems and neither have other users whom he knows. Evidently Mike doesn't feel that any of the physical changes he reported are "problems": acne, bloated appearance, bone or joint pain, muscle pain, frequent urge to urinate, difficulty sleeping, impotence, breast development and shrinking testicles. (He believes that any bad effects of steroids go away when you stop using them.) Mike also reports sometimes feeling very sad, and that he has seriously considered suicide since starting to use steroids.

Mike is not without his doubts: he now feels that he did not make a good decision when he started steroids. But he has no plans to stop, and in fact has decided to quit using them before, only to start again. He says that if you could convince him that steroids are really bad that he'd quit.

The 98-Pound Weakling

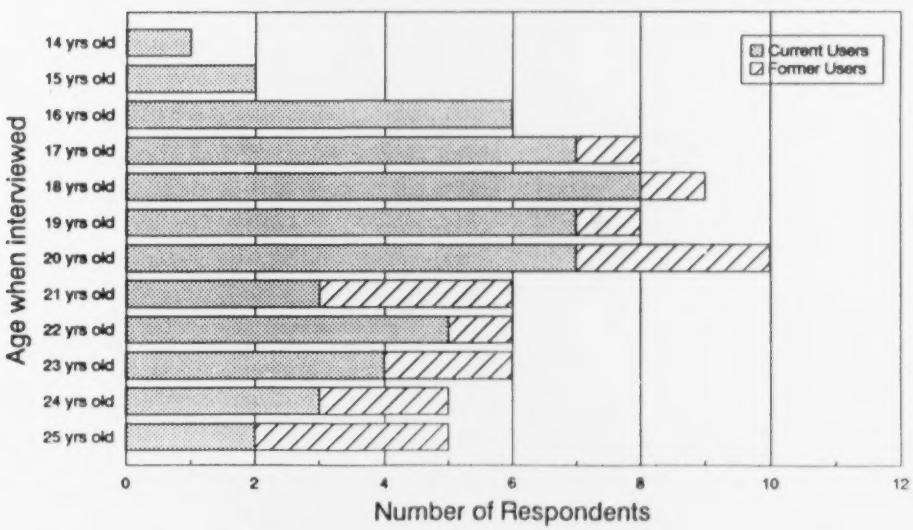
Joe was very serious about getting bigger. At 16, he's been taking steroids since he was 14. He's already completed 10 cycles. The last one was 16 weeks long, and he "stacked" three oral and six injectable steroids. He's continuing despite a number of side effects, including emergency room treatment for high blood pressure.

Has it been worth it? Joe went from 98 lbs. to 185 lbs. in six months. He says that he's definitely more popular and more satisfied with his life now. He participates in football, swimming/diving, soccer, and competitive bodybuilding. He tried to quit using steroids once but "couldn't." He now has no plans to stop.

User Characteristics

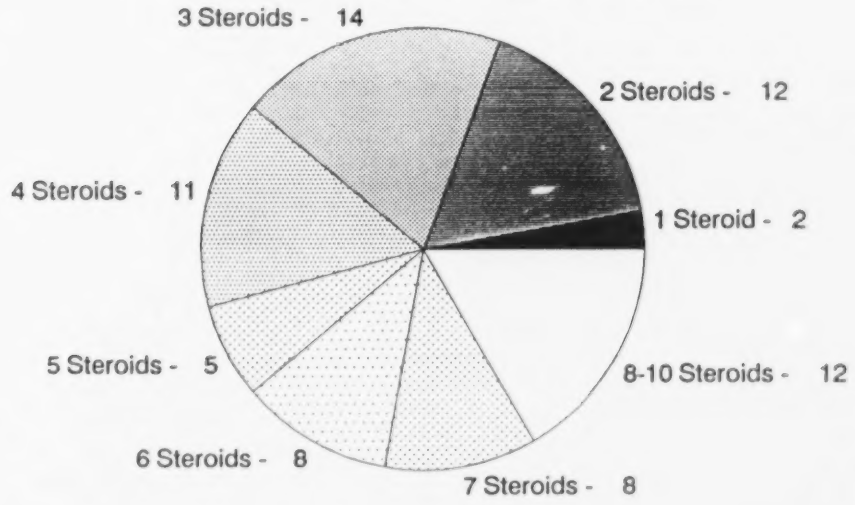
Respondents Were From 10 States

Current Age of Respondents



B - 1

Number of Drugs in Reported Cycle



Sports or Training Programs Listed by Respondents

(Some respondents listed more than one.)

	Number	Percent
Weightlifting **	39	56.5%
Football	32	46.4%
Bodybuilding *	15	21.7%
Track and Field	12	17.4%
Wrestling	11	15.9%
Swimming/Diving	10	14.5%
Powerlifting *	10	14.5%
Baseball/Softball	5	7.2%
Soccer	5	7.2%
Basketball	3	4.3%
Gymnastics	3	4.3%
Cycling	2	2.9%
Hockey	2	2.9%
Skiing/Skating	1	1.4%
Tennis/Badminton	1	1.4%

* Competitive
** Non-competitive

APPENDIX C

ACKNOWLEDGMENTS

For reviewing the discussion guides:

Drs. Linn Goldberg, Douglas McKeag, James Wright and **Charles Yesalis** reviewed the user discussion guides and offered many helpful suggestions.

For conducting interviews:

The following individuals conducted interviews with steroid users using the structured discussion guides prepared by OEI. We appreciate their many hours of work.

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Mr. Carolan has extensive counseling experience with adolescent steroid users.

Mark Humbert, Ph.D.
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Dr. Humbert wrote his dissertation on the psychological effects of steroid use. He is presently a staff psychologist for the Youth Training School at Chino. He is also a competitive bodybuilder.

James E. Wright, Ph.D.
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Northridge, CA 91324

Dr. Wright has been a prominent researcher and writer in the field of steroids for many years.